



City of Arcata Pesticide Reduction Plan

Approved by the Arcata City Council on : November 17, 2004

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**PESTICIDE REDUCTION PLAN
APPROVED BY THE ARCATA CITY COUNCIL ON NOVEMBER 17, 2004**

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PESTICIDE REDUCTION PLAN

10.0 INTRODUCTION

This plan has been written in accordance with the City of Arcata Municipal Code, Title V. Sanitation & Health, Chapter 4 - Removal of Weeds and Refuse, Sections 5480 – 5494, Amended by Ordinance No. 1201, (full text attached as Appendix 1). This ordinance states that the Director of Environmental Services shall formulate and develop a Pest Control Plan for the City.

The Pest Control Plan shall contain the following elements:

1. A description of all materials and methods of permissible pest control for use on or in City owned, operated or maintained property, buildings or facilities, including sidewalk areas in the City's right-of-way;
2. A methodology for educating the public about pest control management on or in private property using permissible pest control techniques; and
3. Guidance on preventive pest control measures, including but not limited to pest exclusion techniques for new and remodel building construction, and for household and commercial sanitation.

This document, entitled Pesticide Reduction Plan, fulfills the requirements of the Arcata Municipal Code.

In the interest of protecting the health and safety of the community and environment, the City of Arcata will not use pesticides, as defined below, on or in any city owned, operated or maintained property. Pesticides are potentially harmful to people, pets, and garden ecosystems. These chemicals have also been found to contribute to toxicity in water and aquatic environments. Prevention of water pollution is an essential element of pesticide reduction. Therefore, some water pollution prevention techniques have been integrated into parts of this plan.

The public has a right to know about the toxic and hazardous nature of chemical products used in their homes and surrounding environments. The users of toxic and hazardous products have both an obligation and a right to be informed about the costs and consequences of such use.

Retailers who sell, and commercial operators who apply, toxic and hazardous products have an obligation to inform consumers about product contents and about appropriate precautions and disposal methods.

When the City enters into a new contract, or extends the term of an existing contract, the contract shall obligate the contractor to comply with this plan. Designs for new or renovated landscapes, buildings, facilities and rights-of-way shall conform to the requirements of this plan, and include maintenance plans.

Within this plan, the term "pesticide" shall mean:

- Any spray adjuvant, substance or mixture of substances, which is intended to be used for defoliating plants, regulating plant growth or for preventing, destroying, repelling, or mitigating any pest which may infest or be detrimental to vegetation, man, animals or households, or be present in any agricultural or non-agricultural environment, including fungicides, herbicides, insecticides, nematicides, rodenticides, desiccants, defoliants, and plant growth regulators.
- Any product that meets the US EPA criteria for Toxicity Category I or Toxicity Category II of Title 40, Section 152 of the Code of Federal Regulations. Toxicity Categories are defined in Appendix 2.
- Any product containing a chemical identified by the State of California as a chemical known to the State to cause cancer or reproductive toxicity.
- Any pesticide classified as a human carcinogen, probable human carcinogen or possible human carcinogen by the US EPA, Office of Prevention, Pesticides and Toxic Substances.

11.0

City departments may obtain written authorization from the Director of Environmental Services to apply a pesticide without providing advance notification for a specific and limited purpose and for a defined period of time, in the event of a public health emergency or to comply with worker safety requirements, provided all other options have been investigated and a compelling need to use the pesticide exists.

Exclusion: This plan shall not apply to the use of any pesticide for the purpose of improving or maintaining water quality for drinking water treatment, waste water treatment, and related water collection, distribution and treatment facilities.

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12.0 MATERIALS AND METHODS OF PERMISSIBLE PEST CONTROL FOR USE ON OR IN CITY OWNED, OPERATED OR MAINTAINED PROPERTY, BUILDINGS OR FACILITIES, INCLUDING SIDEWALK AREAS IN THE CITY'S RIGHT-OF-WAY

PROHIBITED SUBSTANCES

Use of any pesticide, the manufacture of which has been either voluntarily discontinued or prohibited by the EPA, is prohibited within the City of Arcata. A list of prohibited substances, current as of July 2002, is attached as Appendix 3. Future updated lists can be obtained from the Federal Register.

PERMISSIBLE SUBSTANCES

Minimum risk pesticide products, which are exempt from the requirements of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), may be used for city pest

control efforts within the City of Arcata. Minimum risk active ingredients are generally considered innocuous materials and include:

1. Castor Oil (U.S.P. or equivalent)
2. Cedar Oil
3. Cinnamon and Cinnamon Oil
4. Citric Acid
5. Citronella and Citronella Oil
6. Cloves and Clove Oil
7. Corn Gluten Meal
8. Corn Oil
9. Cottonseed Oil
10. Dried Blood
11. Eugenol
12. Garlic and Garlic Oil
13. Geraniol
14. Geranium Oil
15. Lauryl Sulfate
16. Lemon Grass Oil
17. Linseed Oil
18. Malic Acid
19. Mint and Mint Oil
20. Peppermint and Peppermint Oil
21. 2-Phenethyl Propionate (2-phenylethyl propionate)
22. Potassium Sorbate
23. Putrescent Whole Egg Solids
24. Rosemary and Rosemary Oil
25. Sesame (includes ground Sesame plant) and Sesame Oil
26. Sodium Chloride (common salt)
27. Sodium Lauryl Sulfate
28. Soybean Oil
29. Thyme and Thyme Oil
30. White Pepper
31. Zinc Metal Strips (consisting solely of zinc metal and impurities)

Important information on minimum risk *inert* ingredients can be found in Appendix 4.

TRAINING

Department Directors shall ensure current and new city employees, for whom grounds or building management and/or maintenance is within the scope of their duties, will be trained using this plan and any other information on alternatives to toxins deemed appropriate by their supervisor. New integrated pest management strategies will be incorporated into this plan and into employee training, as they become known. This document is to be kept in a location accessible to employees.

12.1 INTEGRATED PEST MANAGEMENT APPROACH

Pest control treatments will be employed when and where monitoring has indicated that a pest will cause unacceptable economic, biological or aesthetic damage. Treatments will be chosen and timed to be most effective and least hazardous to non-target organisms and the general environment. The most appropriate method and/or material will be selected based on integrated pest management principles for a given situation.

The following principles of integrated pest management (IPM) will be employed by the City of Arcata for pest control.

1. Integration of pest prevention in the planning and design of landscapes, roadways, facilities, and rights-of-way.
2. Landscape designs which:
 - a. Consider the needs of a specific site, including microclimates, solar access, wind patterns, topography, rainfall and drainage patterns, and other unique features of the site.

- b. Identify existing plants for retention or salvage, as appropriate.
 - c. Emphasize native plants selected for soil type, sun and moisture tolerances, and natural pest resistance.
 - d. Give consideration to variety and diversity in planting selections.
- 3. Roadside and right-of-way vegetation management activities are intended to encourage protection of water quality, provide positive outcomes to essential functions of the roadways, and ensure the safety of the traveling public.
 - a. Vegetation management activities will improve drainage, reduce fire hazard, reduce spread of undesirable vegetation, limit erosion, and increase infiltration.
 - b. Essential functions and safety factors include:
 - i. Improved visibility of signs and structures.
 - ii. Facilitation of the inspection and maintenance of other features and structures.
 - iii. Improved visibility of shoulder for emergencies and obstacles.
 - iv. Increased sight distance.
 - c. Consideration will be given to the following guidelines when planning roadside vegetation management activities.
 - i. Hydroseeding products should not enter flowing water, wetlands, ponds, or lakes.
 - ii. Woody debris resulting from pruning or thinning should be removed from sensitive areas as required, except in the case of large woody debris specifically required to be left in a stream or other waterway as part of fish habitat enhancement plans.
 - iii. Avoid cutting material on the backslope over running water.
 - iv. Pick up litter and woody debris from water, ditches, and slopes.
 - v. Recycle wood products when feasible.
 - vi. Mow grass and brush at heights that avoid "scalping" of soil.
 - vii. Mow native vegetation at heights that promote its growth.
 - viii. Carry spill kits appropriate for equipment used.
 - ix. Incorporate biological controls into roadside management practices wherever appropriate.
- 4. Employ appropriate maintenance by employees with up-to-date training. Continually acquaint staff with pest biologies, the IPM approach, new pest management strategies, as they become known, and toxicology of pesticides proposed for use.

5. Routine monitoring of each pest ecosystem to determine pest population, size, occurrence, and natural enemy population, if present. Identify decisions and practices that could affect pest populations. Keep monitoring records.
 - a. Monitoring records should include as appropriate:
 - i. Identified pests
 - ii. Date
 - iii. Specific location
 - iv. Stage of life cycle
 - v. Extent of pest presence
 - vi. Any other pertinent information
6. Set for each pest at each site an injury tolerance level based on how much biological, aesthetic or economic damage the site can tolerate. When monitoring shows the predetermined tolerance threshold has been crossed, implement interventions to avoid reaching the damage threshold.
7. Consider a range of potential treatments, including no action, for pest problems. Employ non-pesticidal management tactics first.
 - a. Management tactics may be physical, mechanical, cultural, and/or biological.
 - i. Physical or mechanical activities include hand removal and use of mechanical equipment.
 - ii. Cultural activities enhance desirable vegetation to out-compete or otherwise resist pests, such as irrigation, seeding, fertilizing, mulching, pruning and thinning.
 - iii. Biological activities use insects, animals, birds, diseases or competing vegetation to control pests.
 - b. Treatments should avoid disrupting natural pest controls and other non-target organisms, and should take place when natural enemies are least vulnerable.
 - c. Treatments should be timed for the pest's most vulnerable life stage and should aim to suppress, rather than eliminate, the pest population.
 - d. The use of chemicals will be considered only as a last resort. Only chemicals permitted within this plan will be used. Resorting to chemicals on a regular basis indicates a need for redesign of the site.
8. Keep treatment records. Monitor treatment to evaluate effectiveness and keep monitoring records.
 - a. Record keeping should include:
 - i. Maintenance performed to minimize pest populations and enhance healthy plant growth.

- ii. Control methods employed including dates, specific location and any other pertinent information.
 - iii. Site or pest-specific observations that result from IPM methods used.
- b. Any revisions to strategies used should also be documented.
- c. If chemicals are used, record keeping should include application records required by the County and/or State, as well as:
 - i. Name of the licensed applicator.
 - ii. Specific location and area of application
 - iii. Chemical name and brand name.
 - iv. Concentration, amount and rate of application.
 - v. Dates and times of applications and weather conditions at those times.

The following principles will also be given consideration as they relate to pest management practices, and are consistent with the intent of this plan.

- 1. Minimize impervious surfaces, manage runoff, and maximize infiltration.
 - a. Minimize alteration of natural drainage patterns around existing vegetation.
 - b. Conform to natural drainage patterns.
 - c. Provide opportunities for surface runoff to replenish groundwater tables.
 - d. Minimize soil erosion by dispersing water flow across the ground surface.
 - e. Reduce water velocity and increase soil permeability with plantings and mulch.
 - f. Avoid plantings that require supplemental irrigation on steep slopes.
 - g. Implement soil erosion controls as preventive maintenance.
- 2. Reduce and/or reuse landscape waste materials through practices such as mulch mowing, mulching and composting.
 - a. City generated compost and wood chips may be used.
 - b. Do not apply mulches where they may migrate or leach nutrients into waterways.
- 3. Select and use fertilizers that minimize negative impacts on soil organisms and aquatic environments.
 - a. Natural organic and slow-release fertilizers should be considered before soluble fertilizers.
 - b. Phosphorus products should be avoided unless soil tests indicate they are necessary.

12.2 METHODS AND MATERIALS

The following portion of this plan may be amended at any time at the discretion of the Director of Environmental Services. IPM strategies are intended to be modified as monitoring and treatment evaluations indicate efficacy and appropriateness of each tactic.

12.3 Animal Pest Control

Specific modifications and treatments may include, but are not limited to, any of the following.

- Planting selections that emphasize native species and cultivars with higher resistance to pest problems.
- Resistant species such as bulbs, shrubs and perennials where slugs are a problem.
- Plants that shed a minimum of seeds and fruits may be appropriate at some sites.
- Introduction or enhancement of a pest's natural enemies.
- Modification or elimination of pest ecosystems to reduce food and living space, including, but not limited to:
 - Caulking cracks and plugging holes that provide hiding places.
 - Eliminating water sources by keeping sinks, faucets, and pipes in good repair.
 - Keeping screens on windows in good repair.
 - Practicing good housekeeping.
 - Pruning branches that are in contact with buildings to reduce rodent access.
- Maintain a plant-free zone of up to 12 inches around buildings.]
- Do not plant climbing plants against buildings.
- Nontoxic traps.
- Vacuuming.
- Sticky barriers around the trunks of trees and shrubs.
- Copper wire or vertical copper borders can be used around flowerbeds to deter slugs and snails.

NOTE: Polypropylene mesh fabrics used for weed control may also be effective in controlling some insect pests, but are not a preferred material. Mesh fabrics are difficult to remove, typically cannot be reused, and contribute to the waste stream.

12.4 Plant Pest Control

Specific modifications and treatments may include, but are not limited to, any of the following.

- Covering soil with mulch to eliminate habitat for weedy plants.
 - City generated wood chips or compost may be utilized.
 - Weed-seed-free materials are preferable.

- Mulch should be very shallow (~ 1/2 inch) at the base of trees to discourage root-rotting fungus.
- Low-growing ground-covering species may be planted under trees and shrubs to crowd out unwanted vegetation.
- Unless disease problems are present, allow leaf litter to accumulate in planted areas that are not intended to have a manicured appearance.
- Removal of dirt and debris from gutters and sidewalks to eliminate growing medium.
- Fertilizer: Compost, decomposed manures, encapsulated materials, and other weed-free organic fertilizers.
- Manual Weeding: Removing weeds by hand, mowing, or with various weeding tools.
- Flame Weeding: Hand-held flamers can be used on plants until the sap in their cells expands enough to break the cell walls and cause death. The plants need not be burned for this to happen; holding the flamer over the plant just long enough for the plant to change color or wilt is sufficient. This technique works best on young, broad-leaf annual weeds.
- Steam and/or boiling water have been shown to reduce some species of unwanted vegetation for up to four weeks.
- Correct pruning to maintain plant vigor. All pruning of live tissue involves wounding the plant, therefore, it will be done carefully and conservatively.
 - Cuts should be made just outside the branch bark collar and ridge tissue where the branch meets the trunk or another branch.
 - Dead wood can be removed in any season.
 - Live branches can be minimally pruned in any season.
 - Minimal pruning will stimulate the least amount of new growth, attracting fewer insect species.
- *(Specific to the Ball Park)* A reusable, permeable material may be used for protection of, and weed control in, the ball park during winter, and will be removed in spring.

NOTE: Polypropylene mesh fabrics used for weed control are not a preferred material. Mesh fabrics are difficult to remove, typically cannot be reused, and contribute to the waste stream.

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13.0 METHODOLOGY FOR EDUCATING THE PUBLIC about pest control management on or in private property

13.1 CONSUMERS

The public has a right to know about the toxic and hazardous nature of chemical products used in their homes and surrounding environments. The users of toxic and hazardous products have both an obligation and a right to be informed about the costs and consequences of such use.

Information on alternatives to pesticides, this plan, Internet resources and book recommendations will be provided to the residents of Arcata in the following ways:

1. City staff will prepare a brochure summarizing the alternatives to toxins for the most common regional pest problems. The value of non-toxic and least-toxic approaches to pest control will be emphasized.

Information will be drawn largely from the work of organizations such as Northwest Coalition for Alternatives to Pesticides (NCAP), and Pesticide Action Network of North America. Brochures will be distributed at the locations listed in Appendix 5.

2. The above referenced brochure will be provided to the Finance Department for distribution to new business license applicants and new water/sewer account applicants.
3. This plan, and expanded information for consumers and residents, will be distributed at the locations listed in Appendix 5. Expanded information will be prepared separately for the consumer audience and is not included in this document.
4. Portions of this plan will be linked to the City web site.

13.2 RETAILERS

Retailers who sell, and commercial operators who apply, toxic and hazardous products have an obligation to inform consumers about product contents and about appropriate precautions and disposal methods. City staff will contact Arcata-based retailers and commercial operators to disseminate information about pesticide related problems. Relevant businesses are listed in Appendix 6.

1. Educational information on alternatives to pesticides will be offered to retailers for current and new employee training.
2. City staff will consult with commercial pest control operators to encourage less toxic alternatives.
3. Listings of least toxic pest-specific methods and products will be made available as point-of-sale materials.
4. Shelf-talkers and fact sheets will be made available to retailers.

13.3 SCHOOLS

Model integrated pest management school policies based on the Safe Schools Act of 2000 will be made available to public and private schools in the City of Arcata.

Age-appropriate model educational programs for students will be made available to public and private schools in the City of Arcata.

School janitors are addressed in the next section.

13.4 JANITORS AND CLEANING SERVICES

The brochure summarizing alternatives to toxins for the most common regional pest problems and emphasizing the value of non-toxic and least-toxic approaches to pest control will be distributed to school janitors and to cleaning services.

Information on the value of personal protective equipment, such as gloves and eye protection, will be provided as well as recommendations for cleaning products formulated without:

- Alkylphenol Ethoxylate Surfactants (due to poor biodegradability)
- Carcinogens, Mutagens and Teratogens
- Chlorine Bleach and other Ozone-Depleting Compounds
- Combination Cleaner-Disinfectants
- Persistent, Bioaccumulative and Toxic Chemicals
- Phosphates
- Volatile Organic Compound concentrations exceeding 10% of the weight of the product

13.5 FARMS AND RANCHES

City staff will research County records for the most commonly used pesticides on agricultural land within the City of Arcata. Organic pest management alternatives will be recommended to the landowners and operators of all relevant properties.

Future grazing permits or leases on City-owned property shall stipulate the ban of toxic chemicals on such property and shall refer the lessee to this policy.

13.6 UTILITIES

Utility companies will be provided with the City of Arcata's policy regarding the use of pesticides, as well as the brochure summarizing alternatives to toxins for the most common regional pest problems.

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14.0 GUIDANCE ON PEST EXCLUSION TECHNIQUES

14.1 PEST EXCLUSION TECHNIQUES APPLICABLE TO NEW AND REMODEL BUILDING CONSTRUCTION

Minimizing pesticide use in buildings is the most effective way to reduce toxic releases from this source. Pesticides used over the life of a building can be a major source of toxic release. They also increase the risk of water pollution via runoff into storm drains. Runoff can be reduced by on-site water retention and minimizing impermeable surfaces.

Pest exclusion techniques for new and remodel building construction may include, but are not limited to, any of the following.

- Design windows to prevent harborage and access spaces.

- Avoid structural and lighting features that provide opportunity for roosting or nesting.
- Mechanical insect controls such as concrete or sand barriers, and sheet metal foundation shields, used prior to pouring a concrete foundation slab.
- A three inch layer of 1-3mm sand or crushed volcanic cinders provides a permanent barrier to western subterranean and Formosan termites. These materials are preferable to toxic wood treatments, fumigation and residual pesticides in perimeter soils.
- Sand can be used in the crawl spaces inside joist-type foundations.
- Naturally weather and rot resistant wood is preferred when available.
- Wood treated with inorganic arsenic (also known as chromated copper arsenate and CCA) should be used only where such protection is important. Effective January 2004, CCA-treated wood for residential uses will be prohibited by the EPA.
- Water-repellant or sealer is preferred to CCA-treated wood.
- Termite-resistant outdoor lumber substitutes, such as recycled plastic lumber and fiber-cement products, should be used wherever practicable.
- Eliminate soil to wood contact.
- Keep lumber in well-ventilated areas and raised away from soil.
- Fit eave rook tiles with bird stops, which are also effective for bats, bees and wasps.
- Install screen mesh behind ventilation louvers.
- Use coving at floor-to-wall junctures to minimize build-up of debris and facilitate cleaning.
- Insure pipe insulation has a smooth surface and no gaps between pieces.
- Seal electrical and plumbing entry points.
- Build inspection openings into all concealed foundation spaces.
- Dehydrating powders, such as diatomaceous earth or silica aerogel, can be shot into walls during construction (or after termite treatment) to prevent infestations.
- Construct curbs and gutters with a rounded junction.
- Application of slurry seal should not extend beyond the concrete apron of the gutter.
- Walkways and parkings around trees or shrubs should be permeable and slope toward landscaped areas.
- Maintain a plant free zone of up to 12 inches around buildings.
 - Use low-toxicity and low, or zero, volatile organic compound (VOC) materials whenever possible.
 - Specify acceptable materials in contracts.

Refer to the METHODS AND MATERIALS section for control of pests on City property for pesticide free landscaping practices.

14.2 PEST EXCLUSION TECHNIQUES APPLICABLE TO HOUSEHOLD AND COMMERCIAL SANITATION

Good housekeeping practices reduce the incidence of pest problems. The City of Arcata will give preference to non-toxic and least-toxic products that are safe both for the user and for the environment for sanitation purposes on City owned, operated or maintained property.

Kitchen, laundry, and bath disinfectants and sanitizers, as well as products that kill mold and mildew (fungicides), are considered pesticides, and can be toxic. The most dangerous cleaning pesticides are drain cleaners, oven cleaners and acid-based toilet cleaners. These products are corrosive, poisonous, and contribute to hazardous waste. Safer alternatives are available for these purposes.

Preferred products are formulated without:

- Alkylphenol Ethoxylate Surfactants (due to poor biodegradability)
- Carcinogens, Mutagens and Teratogens
- Chlorine Bleach and other Ozone-Depleting Compounds
- Combination Cleaner-Disinfectants
- Persistent, Bioaccumulative and Toxic Chemicals
- Phosphates
- Volatile Organic Compound concentrations exceeding 10% of the weight of the product

Store paper products in dry areas not in direct contact with floors and walls.

Avoid placing discarded equipment or materials against walls.

Place outdoor garbage containers on hard cleanable surfaces away from building entrances.

Screen drains, close off unused drains or drain pipe openings, seal around plumbing entry points.

Place screens behind any heating or cooling vents and caulk around the edges of the screen.

Weatherstrip around doors and windows

Repair holes in screens.

Seal around electrical sockets and areas adjacent to pipe entry points.

Keep indoor garbage in lined, covered containers and empty daily.

Properly dry and store mops and buckets (e.g. mops hung upside down, buckets emptied).

Thoroughly clean around and under appliances and furnishings that are rarely moved, such as refrigerators, freezers, shelf units) to remove accumulated grease and dust, etc.

Promptly remove contaminated or infested items. Quickly dispose of all items spoiled by damage, insects, rodents or other causes.

Vacuum thoroughly and frequently. Vacuum bags should be replaced immediately.

Eliminate sources of food and water.

Organic waste should be kept in containers with tight fitting lids and emptied frequently.

Seal cracks and crevices:

 Vacuum to remove food, fecal material, and eggs.

 Wash the area.

 Seal with clear caulk.

For households with animals:

 Frequently remove waste from pet areas and either flush down the toilet or put in a sealed bag before discarding.

 Pet food dishes can be kept in trays of soapy water to create a moat.

 Store pet food in sealed containers made of plastic, glass or metal.

 Clean up spills immediately.

Alternative cleaning products meeting the recommendations listed above will be included in the public education brochure.

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15.0 SAFE USE AND STORAGE

1. Workers will **read the label** before using any pesticide product, and follow the directions as serious injury to workers, others and the environment can result from misuse of pesticides.
2. Areas and objects that should not be sprayed or dusted, will be removed or covered before using pesticides.
3. **Do not** smoke, eat, chew gum or drink when handling pesticides.
4. **Follow label directions** for wearing **protective gear** when mixing and applying pesticides. Depending on the product, this might include: plastic or rubber gloves, safety glasses or goggles, a respirator rated for pesticides, long-sleeved shirt, long pants or coveralls, and closed shoes (no sandals or bare feet).
5. Do not use chemical applications in wet or windy conditions.
6. 'Ready-to-use' chemicals minimize opportunities for spills and contamination.
7. When diluting concentrates, mix the **smallest quantity** that will do the job, and use it up.
8. Use **dedicated** measuring utensils and containers for mixing or measuring pesticides. Mark the utensils permanently and store them with the pesticides.
9. Pesticides will be stored in their **original containers** in a safe, cool, dark, dry place. Store liquids below bagged materials.
10. **Never remove labels or transfer** pesticides to unmarked containers.

11. Containers will be rinsed three times prior to discarding. Contaminated containers should be crushed or punctured to prevent further use.
12. Water used to rinse out a sprayer or applicator should be applied like the pesticide.
13. Carry a spill kit appropriate for the equipment and product used.

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16.0 PROPER DISPOSAL

Proper disposal is very important because:

- Treatment processes for household wastewater are not designed to remove 100% of toxic chemicals or metals from water. It is possible for toxins to pass through treatment processes and enter the bay.
- Stormwater washes off driveways, sidewalks, and streets and drains into creeks and the bay untreated. Toxins on impervious surfaces are thereby carried into aquatic environments.
- Many synthetic chemical formulations have not yet been reviewed by the EPA for their effect on children's health or on water quality. Future bans are likely.

Unwanted products belonging to the City of Arcata will be properly disposed of at the Humboldt County Spruce Point Household Hazardous Waste Collection Facility.

17.0

18.0 POTENTIAL FUNDING SOURCES

Both state and federal grants are available for pesticide related programs.

Grant applications will be completed and submitted by City staff. See Appendix 7 for detailed grant information.

19.0 PERSONNEL

Directors and Supervisors in charge of property maintenance may make use of community service workers and volunteers when appropriate, e.g. SWAP and JAWS programs.

Implementation of the retail and consumer education portion of this plan would be appropriate for a part-time employee, an Americorp employee, or a student intern.

The in-school public education portion of the program would be appropriate for a part-time employee, an Americorp employee, a student intern, or a student seeking practicum credits.

Environmental Services Department staff and/or Parks and Facilities Division staff will complete Grant applications.

20.0 RESOURCES

The following resources are provided to enable City staff, employees and the public to find specific information, to answer questions, and to solve pest related problems.

Important Phone Numbers

Californians for Alternatives to Toxics (707) 822-8497

City of Arcata Environmental Services (707) 822-8184

City of Arcata Parks & Facilities Division (707) 822-5957

Emergency – if dumping is occurring right now – 911

FDA Food Information & Seafood Hotline (800) FDA-4010

Humboldt County Public Health Department,
Division of Environmental Health (707) 445-6215

National Pesticide Telecommunications Network,
(general pesticide information) (800) 858-7378

Northcoast Environmental Center (707) 822-6918

Northwest Coalition for Alternatives to Pesticides (NCAP) (541) 344-5044

Poison Control Center, Nurse on duty 24 hrs. 1-800-876-4766

Spruce Point Household Hazardous Waste Collection Facility (707) 441-2005

US Department of Agriculture, Meat and Poultry Hotline (800) 535-4555

US Department of Agriculture, National Organic Program (202) 720-3252

Waste Alert, CAL EPA 1-800-69-TOXIC

Websites and Databases

Bio-Integral Resource Center (BIRC)

P.O. Box 7414, Berkeley, CA 94707 (510) 524-2567

<http://www.igc.apc.org/birc/>

Current, thoroughly researched, pest-specific information on least-toxic pest management, available in publications and over the phone.

California EPA Department of Pesticide Regulation

<http://www.cdpr.ca.gov/dprdatabase.htm>

Links to U.S. EPA Office of Pesticide Programs databases including:

- Registered and Cancelled Pesticide Product Database
- Chemical Ingredients Database
- Company Information Database

Chemical Pesticide Cross-Reference Table

<http://www.wsn.org/pesticides/crossref.shtml>

Less-Toxic Home Gardening

<http://www.centralsan.org/education/ipm/hgonlineguide.html>

Central Contra Costa Sanitary District

Northwest Coalition for Alternatives to Pesticides (NCAP)

<http://www.pesticide.org/default.htm>

Access to over 150 detailed fact sheets, reports, and other educational materials free-of-charge.

Office of Pesticide Programs

<http://www.epa.gov/opprd001/factsheets/>

Fact sheets on new active ingredients registered by the under the Federal Insecticide, Fungicide, and Rodenticide Act.

Pesticide Action Network North America (PANNA)

<http://www.panna.org/>

Searchable database for chemicals, products, and alternatives, as well as links to other resources.

Pest Identification and Management Resources

<http://www.ipm.ucdavis.edu/PMG/selectnewpest.home.html>

US EPA Agency for Toxic Substances and Disease Registry

www.atsdr.cdc.gov/toxfaq.html

Frequently Asked Questions on Top 20 Hazardous Substances listed with the agency.

US EPA Office of Pollution Prevention and Toxics, Persistent, Bioaccumulative and Toxic (PBT) Chemical Program

www.epa.gov/pbt/cheminfo.htm

University of California Cooperative Extension

<http://www.mastergardeners.org/scc.html>

21.0 SOURCES CITED

Memorandum to City Council on 01/19/87 from Pesticide Task Force Committee, "Alternatives to Pesticides," delineates pesticide-free recommendations for managing city properties (includes City streets, sidewalks, parks, plaza, and ball park.)

Memorandum to City Council on 07/17/90 from City Attorney, "Herbicide Spraying on Sidewalks," supports City ability, as a means of protecting city property and public health and welfare, to oppose application of economic poisons to city property by citizens.

Arcata Community Recycling Center, 1380 9th St, Arcata CA 95521

Agency for Toxic Substances and Disease Registry <http://www.atsdr.cdc.gov/cxcx3.html>

California School IPM http://www.cdpr.ca.gov/cfdocs/apps/schoolipm/managing_pests/71_pest_prevention.cfm?crumbs_list=1,5,34

City and County of San Francisco Integrated Pest Management Ordinance,
<http://police.sfgov.org/ipm/ordinance.htm>

City of Santa Monica, Environmental Programs Division, Sustainable Cities Program, 200 Santa Monica Pier, Santa Monica, CA 90401-3126 (310) 458-2213 <http://pen.ci.santa-monica.ca.us/environment/policy/hazardous/policies.htm#Toxic and Hazardous Household Products Labeling> or http://pen2.ci.santa-monica.ca.us/city/municode/codemaster/Article_5/36/index.html

City of Santa Monica, Green Building Design & Construction Guidelines (DRAFT), April 1999.

City of Seattle, Office of Environmental Management

© Environmental Health Coalition, 1717 Kettner Blvd., Suite 100, San Diego, CA, 92101 (619) 235-0281 Home Safe Home Factsheet <http://www.environmentalhealth.org/fs-homeclean.html>

Local Hazardous Waste Management Program in King County, Tri-County Integrated Pest and Vegetation Management Guidelines, 130 Nickerson St, Suite 100, Seattle, WA 98109

Northwest Coalition for Alternatives to Pesticides
PO Box 1393, Eugene OR 97440-1393 (541) 344-5044 Fax 541-344-6923 info@pesticide.org

Pesticide Action Network of North America <http://www.panna.org/>

Terrene Institute, Alexandria, VA.

United States Environmental Protection Agency
www.epa.gov/pesticides/biopesticides/what_are_biopesticides.htm

United States Environmental Protection Agency, Office of Pesticide Programs,
www.epa.gov/opp00001/whatis/htm

United States Environmental Protection Agency, Office of Pesticide Programs, Pesticide Registration Notice 2000-6.

University of Minnesota, ccls.state.mn.us/pesticide

University of Ohio, ohioline.osu.edu/b745/b745_2.html

Washington Toxics Coalition, [Safer Cleaning Products](#), Dickey, Philip.

22.0

23.0 APPENDIX 1 - TITLE V - SANITATION & HEALTH

CHAPTER 4 - REMOVAL OF WEEDS AND REFUSE

(Amended by Ordinance No. 1201)

SEC.5480. Duty to remove - From private premises.

- (a) It shall be the duty of the owner and of the owner's agent, and of the lessee, occupant or person in possession of any property, in the City to keep such property free from all weeds, refuse, and rubbish, object or condition, which may endanger or injure neighboring property or the health, safety or welfare of the residents in the vicinity of such property.
- (b) Failure to maintain premises in accordance with Section 5480(a) shall constitute a public nuisance. Such condition shall be subject to abatement as provided for in Title V, Chapter 5 of this Code.

SEC.5481. Same: From sidewalks, rights of way and alleys.

- (a) It shall be the duty of the owner and of the owner's agent, and of the lessee, occupant or person in possession of any property in the City to at once remove from the sidewalk, right of way or alley abutting or adjoining such property all weeds, refuse, and rubbish, object or condition, which may endanger or injure neighboring property, or the health, safety or welfare of the residents in the vicinity of such property, or which may obstruct such sidewalks, right of way, or alleys, and thereby endanger or injure persons traveling thereon.
- (b) Failure to maintain sidewalks, rights of way and alleys in accordance with Sections 5481(a) shall constitute a public nuisance. Such condition shall be subject to abatement as provided for in Title V, Chapter 5 of this Code.

SEC.5482. Definitions.

The following terms whenever used in this Chapter shall have the meanings as defined herein.

- (a) "Property" includes, but is not limited to, such areas as lots, parcels, tracts or pieces of land, improved or unimproved.
- (b) "Refuse and Rubbish" includes, but is not limited to, such items or conditions as waste material of every kind whether recyclable or not, material which may create a fire hazard, dead trees and yard waste, abandoned asphalt, concrete or other building materials, or other unsanitary or unsafe materials.
- (c) "Weeds" includes, but is not limited to, plants having the following characteristics or qualities:
 1. Plants which bear seeds of a downy or wingy nature;
 2. Dry grass, stubble, brush or any other plants which may become a fire menace;
 3. Plants which may constitute a menace to public health, such as poison oak or poison ivy;
 4. Plants which may constitute a public hazard.

SEC. 5490. Findings and Purposes.

- A. Scientific research indicates that no pesticide is completely safe to human health and the environment, and various pesticides are hazardous to human health.
- B. The migration of pesticides into the City's watercourses, water bodies and wetlands poses a severe threat to the health of the environment.
- C. On May 7, 1986, the City Council declared a moratorium on the use of all pesticides in the City. The Council subsequently amended such declaration upon the recommendation of a specially created task force to allow the use of dolomark, dolomite, gypsum and fertilizers for making ball fields and preparing soils.
- D. Based on these findings, the purpose of this ordinance is to protect the public health, safety and welfare of the City of Arcata residents and environment through the adoption of regulations that prohibit the use of pesticides by the City on City property.

SEC. 5491. Definitions.

Pesticide: For purposes herein, pesticide shall mean any spray adjuvant, substance or mixture of substances, which is intended to be used for defoliating plants, regulating plant growth or for preventing, destroying, repelling, or mitigating any pest which may infest or be detrimental to vegetation, man, animals or households, or be present in any agricultural or non-agricultural environment, including fungicides, herbicides, insecticides, nematicides, rodenticides, desiccants, defoliants, and plant growth regulators.

SEC. 5492. Pesticide Use Prohibited.

The city shall not use any pesticides on or in any city owned, operated or maintained property, building or facility except in accordance with the city's pest control management plan.

SEC. 5493. Pest Control Management Plan.

- A. The Director of Environmental Services shall, as soon as practicable, formulate and develop a Pest Control Plan for the City. The Pest Control Plan shall contain the following elements:
 1. A description of all materials and methods of permissible pest control for use on or in City owned, operated or maintained property, buildings or facilities, including sidewalk areas in the City's right-of-way;
 2. A methodology for educating the public about pest control management on or in private property using permissible pest control techniques; and
 3. Guidance on preventative pest control measures, including but not limited to pest exclusion techniques for new and remodel building construction and for household and commercial sanitation.
- B. The Pest Control Management Plan shall be revised and updated on a regular basis as needed by new and/or changing conditions.
- C. The Pest Control Management Plan and all revisions thereto shall be adopted by the City Council after public hearing.

SEC. 5494. Implementation.

Until such time as the Pest Control Management Plan is approved, the City shall endeavor to implement the policy of the City to avoid the use of pesticides as reasonably practicable.

24.0 APPENDIX 2 – TOXICITY CATEGORIES

The US Environmental Protection Agency classifies pesticides into categories according to their acute (short-term) toxicity. The toxicity categories are based upon the LD50's (lethal dose required to kill 50 percent of the test population within 14 days after an exposure to the concentration of chemical) of the pesticide formulation related to oral, inhalation, and dermal exposure. Pesticide labels are required to carry a prominent "signal word" which reflects the toxicity category of the pesticide product.

Required Signal Words and Precautionary Statements			
Toxicity Category	Signal Word	Oral, Inhalation or Dermal Toxicity	Skin and Eye Irritation
I	DANGER POISON (In red) and Skull & Crossbones	Poisonous if swallowed (inhaled or absorbed through skin). Do not get in eyes, on skin, or on clothing. (Front panel statement of practical treatment required.)	Corrosive, causes eye and skin damage (or skin irritation). Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Harmful or fatal if swallowed. (Appropriate first aid statement required.)
II	WARNING	May be fatal if swallowed (inhaled or absorbed through the skin). Do not breathe vapors (dust or spray mist). Do not get in eyes, on skin, or on clothing. (Appropriate first aid statement required.)	Causes eye (and skin) irritation. Do not get in eyes, on skin, or on clothing. Harmful if swallowed. (Appropriate first aid statement required.)
III	CAUTION	Harmful if swallowed (inhaled or absorbed through the skin). Avoid breathing vapors (dust or spray mist). Avoid contact with skin (eyes or clothing). (Appropriate first aid statement required.)	Avoid contact with skin, eyes, or clothing. In case of contact immediately flush eyes or skin with plenty of water. Get medical attention if irritation persists.
IV	CAUTION	(No caution statement required.)	(No caution statement required.)
Child hazard warning "KEEP OUT OF REACH OF CHILDREN" is required on the front panel of every pesticide label unless circumstances warrant waiver by EPA Administrator.			

Restricted Use Pesticides: The EPA classifies some pesticides as "Restricted Use." Under federal law, restricted use pesticides may be applied only by certified and licensed applicators.

25.0 APPENDIX 3 - PROHIBITED SUBSTANCES

The following substances have been prohibited by the U.S. EPA for domestic use. This list is current as of July 2002. Future amended lists can be obtained from the Federal Register.

Aldrin	DDD (TDE)	PCB's
BHC	DDT	PCT's
Biothional	Dieldrin	Safrole
Captafol	Dinoseb	Silvex/ 2, 4, 5T
Carbon Tetrachloride	EDBC's	Sodium Monofluoracetate
Chloranil	Zineb, Wabam	Strobane
Chlordane	Endrin	2, 4, STCP and its salts
Chlordimeform	EPN	Thallium Sulfate
Copper Arsenate (Basic)	Fluoroacetamide Heptachlor	TOK
Creosote	Monocrotophos	Toxaphene
Cyhexatin	OMPA	TBT
DBCP	Phenarazine Chloride	Lead Arsenate
		Calcium Arsenate
		Pentachlorophenol

Also:

Clopyralid – an herbicide proposed for purchase by licensed applicators only.

26.0

27.0 APPENDIX 4 - MINIMUM RISK INERT INGREDIENTS (EPA LIST 4A)

A pesticidal inert is any intentionally added substance that is not the active ingredient. The term 'inert' is not synonymous with benign in this context. It only distinguishes the active ingredient from everything else in the product.

Parentheses following a substance indicate exemption from tolerance as inerts if all the conditions set forth in the text and tables shown for the particular substance at 40 CFR 180.1001(c), (d) and/or (e) are met. In other words, these substances are sometimes active, specifically in the uses designated by paragraphs (c), (d), and (e) of the Code:

- §180.1001 (c) = exempt for both growing crops & crops after harvest
- (d) = exempt for growing crops only
- (e) = exempt for animal applications only

According to *North Coast Alternatives to Pesticides*, at least 394 inert ingredients have been or are also registered for use as active ingredients in pesticides. Ingredients in bold have also been used as active ingredients. Inert ingredients listed on pesticide products may also be toxic.

U.S. EPA List (4A) of Minimum Risk Inert Ingredients

Acetic acid (c, d, e)	Dextrin (c, e)	Oyster shells
Agar	Dextrose (c, e)	Paper (fiber; d)
Alfalfa	Dolomite (c)	Paprika
Alfalfa meal	Douglas-fir bark, ground(d)	Paraffin wax
Almond hulls	Eggs	Peanut butter
Almond shells (c)	Egg Shells	Peanut oil
Alpha cellulose (c)	Edible fish meal (c)	Peanuts
Apple pomace (c)	Edible fish oil (c)	Peanut shells (c)
Attapulgite-type clay (c, e)	Flour (wheat, d)	Peat moss
Beef fat	Fuller's earth	Pecan shell flour
Beeswax (c)	Gelatin	Pectin
Beet powder	Glycerin (glycerol; c, d, e)	Polyethylene film (c)
Bentonite (c)	Granite (c)	<i>Polyethylene pellets</i>
Bone Meal	Grape pomace (c)	Potatoes
Bran	Graphite (c, d, e)	Pumice
Bread crumbs	Ground oats	Raisins
Calcareous shale (c)	Guar gum (c)	Red cedar chips
Calcite (c)	Gum arabic (c)	Red dog flour
Calcium carbonate (c,e)	Gum tragacanth	Rice
Canary seed	Gypsum (c)	Rice hulls
Cane syrup	Hearts of corn flour	Rubber
Carbon dioxide	Hydrogenated vegetable oils	Rye Flour
Cardboard	Honey	Safflower oil
Carrageenan (c, d, e)	Invert sugar (c)	Sawdust
Carrots	Invert syrup (c)	Seaweed, edible
Casein (c)	Kaolinite-type clay (c, e)	Shale
Cheese	Lactose (c)	Soapstone (c, e)
Chlorophyll	Lanolin (d)	Sodium bicarbonate (c)
Cinnamon (d)	Lard (c)	Sodium chloride (c)
Citric acid (c, e)	Latex	Sorbitol (c, e)
Citrus meal (c)	Lecithin (c)	Soybean hulls
Citrus pectin	Lime	Soybean meal
Citrus pulp	Limestone	Soybean oil (c, e)
Clam shells		Soy flour (c)
Cloves (d)	Linseed oil	Soy protein (c, e)
Cocoa	Malt flavor	Sucrose (c, e)
Cocoa shells (c)	Meat meal	Sugarbeet meal
Cocoa shell flour	Meal scraps	Sunflower seeds
Cod liver oil (c)	Medicated feed	Tallow
Coffee grounds (c)	Mica (c)	Vanillin (d)
Cookies	Milk	Vermiculite (c)
Cork	Millet seed	Vitamin C
Corn (d)	Mineral oil, U.S.P. (c, e)	Vitamin E
Corn cobs (c)	Molasses (c)	Walnut flour
Corn flour	Montmorillonite-type clay (c, e)	Walnut shells (c)
Corn meal (c)		Water
Corn oil (c)		

Cornstarch(c) Corn syrup (c, e) Cotton Cottonseed meal Cottonseed oil (c) Cracked oats Cracked wheat	Nitrogen Nutria meat Nylon Oatmeal (c) Oats (c) Olive oil Onions Orange pulp (as pomace c)	Wheat (d) Wheat germ oil Whey Wintergreen oil (c) Wool Xanthan gum (c, e) Yeast
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In the event that List 4A is amended, it can be obtained from: Registration Support Branch (4A Inerts List), Registration Division (7505C), Office of Pesticide Programs, Environmental Protection Agency, 1200 Pennsylvania Ave., NW, Washington DC 20460.

28.0 APPENDIX 5 – DISTRIBUTION LOCATIONS

	Consumer Education Brochures	Consumer Education Brochures, this plan, and expanded information.
Arcata Chamber of Commerce	✓	
Arcata Library	✓	✓
Arcata Garbage	✓	✓
ACRC	✓	
City Hall, ES Dept	✓	✓
City Hall, Finance Dept	✓	
Cleaning Services	✓	
HSU Library	✓	
Hazardous Waste Collection Center	✓	
Realtor/Property Managers	✓	
Schools	✓	
School Janitors	✓	
Cleaning Services	✓	

29.0 APPENDIX 6 – RETAILER INFORMATION

Retailers who sell, and commercial operators who apply, toxic and hazardous products have an obligation to inform consumers about product contents and about appropriate precautions and disposal methods. City staff will contact Arcata-based retailers and businesses to disseminate information about pesticide related problems.

1. Educational information on alternatives to pesticides will be offered to retailers for current and new employee training.
2. City staff will consult with commercial pest control operators to encourage less toxic alternatives.
3. Listings of least toxic pest-specific methods and products will be made available as point-of-sale materials.
4. Shelf-talkers and fact sheets will be made available to retailers.

Relevant businesses include:

Construction Companies
Contractors
Cleaning Services
Groundskeepers
Home & Gardening Retailers
Landscape Installation
Landscape Maintenance
Nurseries
Pest Control (Exterminators)
Tree Trimming Services

30.0 APPENDIX 7 – POTENTIAL FUNDING SOURCES

The California Environmental Protection Agency, Department of Pesticide Regulation, Pest Management Grants Program offers Applied Research and Demonstration Grants. Government entities are eligible to apply for either category.

The United States Environmental Protection Agency, Office of Pesticide Programs offers Pesticide Environmental Stewardship Program (PESP) Grants and Regional Initiative Grants. PESP Grants are available to organizations working to reduce the risk and use of pesticides in agricultural and non-agricultural settings. Regional Initiative Grants support pollution prevention projects that complement ongoing EPA projects.

California Environmental Protection Agency, Department of Pesticide Regulation Pest Management Grants Program

The Department of Pesticide Regulation's Pest Management Grants program was established in 1995. The program provides funding support for demonstration and applied research projects that address local or regional pest management challenges and offers promising reduced-risk alternatives to conventional pest management practices. Funding is for one year. Additional funding is available for up to three years based upon performance and in response to a new Request For Proposals issued annually. For more information regarding the Pest Management Grants program, contact Bob Elliott at belliott@cdpr.ca.gov or call (916) 324-4100.

- **Applied Research Grants** help university researchers, private groups, and government entities develop new reduced-risk practices or refine existing practices. Groups can receive up to \$30,000 per year. Funding is available for approximately seven to eight projects. *Applied Research grants are best suited for projects that are not ready for Demonstration Grants.*
- **Demonstration Grants** help university researchers, private groups, non-profit organizations, government entities, and others address local or regional pest management challenges. Projects typically involve practical demonstration of reduced-risk practices on private or public property (e.g., farms, nurseries, schools, parklands). Groups can receive up to \$50,000 per year. Matching funds or in-kind services are required. Funding is available for approximately eight to ten projects. *Demonstration grants are best suited for projects with sufficient applied research data to support full-scale demonstration activities.*
- **Information on the Grant Application Process**
- **Request for Proposals (RFPs)** - Complete bid packages for 2001-02 are available on the State Contracts Register.
 - Priority Areas for funding 2001-02 Pest Management Grant Proposals
 - Project Summary form
- **Grant Summaries** (1995 to present, most recent awards - February 2001)
- **Final Reports** (1998)

United States Environmental Protection Agency, Office of Pesticide Programs

Pesticide Environmental Stewardship Program (PESP) Grants and Regional Initiative Grants

PESP Project grants are administered by the National Foundation for IPM Education (NFIPME) using funding from U.S. EPA's Office of Pesticide Programs. These grants support the overall goal of PESP, which is to reduce the risks from the use of pesticides in agricultural and non-agricultural settings in the U.S.

Follow these links to view:

- [background and selection information](#)
- [previously funded grants](#)

EPA also funds [Regional Initiative Grants](#) for pesticide risk reduction activities. These grants are not related to membership in PESP and are administered through EPA's Regional Offices.

(www.epa.gov/opp_bppd1/PESP/grants.htm updated April 18, 2001)